DAVID H. GRACIAS, PH.D. CURRICULUM VITAE

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I. EDUCATION

1999 Ph.D., Physical Chemistry, University of California at Berkeley and Materials Science Division, Lawrence Berkeley National Laboratory.

1994 5 year Integrated M.S., Indian Institute of Technology (IIT) Kharagpur, India.

II. PROFESSIONAL EXPERIENCE

Dec 2004 –Present	Joint Appointment, Department of Chemistry, Johns Hopkins University
Sept. 2003 - Present	Assistant Professor, Department of Chemical & Biomolecular Engineering, Johns Hopkins University.
Sept 2001 - Aug 2003	Senior Engineer, (Process Integration), Research and Development, Intel Corporation, Hillsboro, Oregon.
June 1999 - Aug 2001	Postdoctoral Fellow (Advisor: Professor George Whitesides) Departments of Chemistry and Chemical Biology, Harvard University.

III. SELECTED HONORS AND AWARDS

2005 National Science Foundation CAREER Award
2003 Team Quality Award, Intel Corporation
2002 Chemistry Highlight of the Year, Chemical and Engineering News
2000 One of the Top Five Must Read Papers, Carnegie Melon, School of Comp. Sci.
2000 Chemistry Highlight of the Year, Chemical and Engineering News

IV. PUBLICATIONS

10 SELECTED PAPERS (out of 28 papers)

1. H. Ye, A. Abu-Akeel, J. Huang, H. E. Katz and D. H. Gracias, *"Probing Organic Field Effect Transistors In-Situ During Operation Using SFG"*, under review Journal of the American Chemical Society (JACS) (2006).

2. S. J. Papadakis, Z. Gu and D. H. Gracias, *"Dielectrophoretic assembly of reversible and irreversible metal nanowire networks and verticaly aligned arrays",* under review Applied Physics Letters (2006).

3. Z. Gu, H. Ye, D. Smirnova, D. Small and D. H. Gracias, *"Reflow and Electrical Characteristics of Nanoscale solder"*, Small (2006), 2, 2, 225-229.

4. H. Ye, Z. Gu and D. H. Gracias, *"Kinetics of ultraviolet and plasma surface modification of poly(dimethylsiloxane) probed by sum frequency vibrational spectroscopy"*, Langmuir (2006), 22(4),1863-1868.

5. H. Ye, Z. Gu, T.Yu and D. H. Gracias, *"Integrating nanowires with substrates using directed assembly and nanoscale soldering"*, IEEE Transactions on Nanotechnology (2006) 5,1, 62-66.

6. B. Gimi, T. Leong, Z. Gu, M.Yang, D. Artemov, Z. M. Bhujwalla and D. H. Gracias, *"Self-assembled three dimensional radio frequency (RF) shielded containers for cell encapsulation"*, Biomedical

Microdevices (2005), 7 (4), 341-345.

7. Z. Gu, Y. Chen and D. H. Gracias, *"Surface Tension Driven Self-Assembly of Bundles and Networks of 200 nm Diameter Rods Using a Polymerizable Adhesive"*, Langmuir (2004), 20(26),11308-11311.

8. M. Boncheva, D. H. Gracias, H. O. Jacobs and G. M. Whitesides, *"Biomimetic self-assembly of a functional asymmetrical electronic device"*, Proceedings of the National Academy of Sciences (2002) 99, 4937-4940.

9. H. O. Jacobs, A. R. Tao, A. Schwartz, D. H. Gracias and G. M. Whitesides, *"Fabrication of a cylindrical display by patterned assembly"*, Science (2002) 296, 323-325.

10. D. H. Gracias, J. Tien, T. L. Breen, C. Hsu and G. M. Whitesides, *"Forming electrical networks in three dimensions by self-assembly"*, Science (2000) 289, 1170-1172.

5 SELECTED PATENTS (out of 8 issued and 5 pending patents)

1. D. H. Gracias, J. Tien and G. M. Whitesides, *"Self-assembled electrical networks"*, U.S. Patent No. 7,007,370 Granted March 07, 2006.

2. V. S. Ramachandrarao and D. H. Gracias, *"Replenishment of surface carbon and surface passivation of low-k porous silicon-based dielectric materials"*, U.S. Patent No. 7,005,390 Granted February 28, 2006.

3. D. H. Gracias and V. S. Ramachandrarao, *"Adhesion of carbon doped oxides by silane coupling agents in damascene integration of microelectronic devices"*, U.S. Patent No. 6,974,762 Granted December 13, 2005.

4. K. O'Brien and D. H. Gracias, *"Reducing line to line capacitance using oriented dielectric films",* U.S. Patent No. 6,927,180 Granted August 9, 2005

5. D. H. Gracias, H-M. Park and V. S. Ramachandrarao, *"Method for controlling etch bias of carbon doped oxide films"*, U.S. Patent No. 6620741 Granted September 16, 2003.

V. MISCELLANEOUS HIGHLIGHTS

- Research funded by the National Science Foundation (NSF), National Institutes of Health (NIH), American Chemical Society (ACS) and Defense Intelligence Agency (DIA).
- Given 23 Invited talks at Government, Academic and Industrial Centers including NASA, NIST, MIT, Caltech, UC Berkeley, UT Austin, Xerox-PARC and HP.
- Reviewer for Science, Proceedings of the National Academy of Sciences (PNAS), Journal of the American Chemical Society (JACS), Angewandte Chemie, Langmuir, Journal of Physical Chemistry, Journal of Polymer Science, Biomembranes, Applied Physics Letters, Journal of Electronic Materials, NSF-DMI Review Panel, NSF-ECE MRI Review Panel, ACS-PRF Grant Reviewer, NSF-DMI-NIRT Review Panel.
- Scientific advisory board of Lifeboat foundation (http://lifeboat.com/ex/).
- Member of the American Chemical Society (ACS), American Institute of Chemical Engineers (AICHE), American Physical Society (APS), Biomedical Engineering Society (BMES), Materials Research Society (MRS), Institute of Electrical and Electronics Engineers (IEEE).
- Have organized outreach workshops and mentored Baltimore Public School (K-12) teachers and students in research and educational projects.